

2015 ANNUAL WATER REPORT

Newark is committed to providing our customers with a reliable supply of safe, quality drinking water to more than 500,000 people in 10 communities. Add this to our pledge to meet and exceed safe drinking water quality standards as members of the Partnership for Safe Water Program. The Partnership is a voluntary cooperative effort between the EPA, drinking water professional organizations, and more than 200 drinking water utilities across the country. All water utilities that join the Partnership agree to adopt stringent performance standards to protect the water supply against microbiological contamination.

Each year we provide this report on the quality of the water delivered by the City of Newark. This report meets the Federal Safe Drinking Water Act (SDWA) requirement for “Consumer Confidence reports” and contains information on the source of our water, its constituents, and the health risks associated with any contaminants.

For more information or to ask questions about Newark’s water call us at 973-256-4965.



SAFE, QUALITY
DRINKING WATER IS
OUR COMMITMENT

WHAT TO EXPECT FROM YOUR WATER

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

To ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain substances in water provided by public water systems. The Safe Drinking Water Act regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for Asbestos, Volatile Organic Chemicals and synthetic organic chemicals.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the EPA Safe Drinking Water Hotline: 1-800-426-4791.

POSSIBLE CONTAMINANTS IN SOURCE WATER

MICROBE CONTAMINANTS

such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

INORGANIC CONTAMINANTS

such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

PESTICIDES AND HERBICIDES

which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

ORGANIC CHEMICAL CONTAMINANTS

including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

RADIOACTIVE CONTAMINANTS

which can be naturally occurring or can be the result of oil and gas production and mining activities.

TESTING AND TREATMENT

Newark takes multiple steps in our testing and treatment processes to make sure the water we deliver to your home is safe from lead and other contaminants.

Your water goes through a thorough treatment process which includes removing small debris, filtering, and disinfecting. In addition, Newark regularly collects and tests approximately 300 water samples a day to ensure that the water our customers receive meets and exceeds Federal and State drinking water quality standards.

Our commitment to providing you, our customers, with quality drinking water is proven through the comprehensive testing and treatment processes we employ.

NEWARK'S WATER QUALITY REPORT FOR 2015

The City of Newark has a water treatment plant where it treats and filters our water to ensure its safety and potability. Newark routinely monitors and tests the water at rivers, lakes and streams that supply its reservoirs. Newark continually monitors the quality of water throughout the distribution system, which finds its way to you, the customer.

This table lists all the drinking water analytes that we detected during the calendar year 2015 and includes the name of the substance, the highest level allowed by regulation, the ideal goals for public health, the amount detected, the usual sources of such contamination, and a key of units of measurement. The presence of these analytes in the water does not necessarily indicate that the water poses a health risk.

Inorganic Compounds	City of Newark		Min.	Max.	MCL	MCL Meets Standard ?	MCLG	Typical Source of Contaminant				
Barium (ppm)	0.006 - 0.013				2.0/2.0	Yes	2	Erosion of natural deposits				
Nitrate (ppm as Nitrogen)	< 0.5 - 0.503				10.0/10.0	Yes	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits				
Lead (ppb)	10 (90th percentile)				AL = 15	Yes	0	Corrosion of household plumbing; Erosion of natural deposits; Leaching from wood preservatives				
(conducted study 2015)	4 sites exceeded AL											
Copper (ppm)	0.07 (90th percentile)				AL = 1.3	Yes	1.3	Corrosion of household plumbing; Erosion of natural deposits; Leaching from wood preservatives				
(conducted study 2015)	No sites exceeded AL											
Microbiologicals	City of Newark	% of positive	Min.	Max.	MCL	MCL Meets Standard?	MCLG	Typical Source of Contaminant				
Total coliforms	1 positive	0.006			Testing positive	Yes	0	Naturally present in the environment				
Total coliform samples taken for 2015: 1933	1 out of 154 samples collected in November				<5% per month							
Turbidity	City of Newark		Min.	Max.	MCL	MCL Meets Standard?	MCLG	Typical Source of Contaminant				
Turbidity (NTU and Combined Filtered Water)	Annual		0.02	0.45	TT(<0.3 NTU 97.3% of the time ; upper range 1 NTU)	Yes	N/A	Soil run-off				
Stage 2 Trihalomethanes (ppb)	Min	Max	LRA Average	MCL	Haloacetic Acids(ppb)	Min	Max	LRA Average	MCL			
Site 1	42.0	94	71	80 ppb on 4th quarter running average	Site 1	24.4	43.9	30	60 ppb on 4th quarter running average			
Site 2	37	87.6	69		Site 2	28.9	52.5	43				
Site 3	39.2	121	80		Site 3	31.3	50	44				
Site 4	37.9	100	52		Site 4	5.86	45.6	28				
Site 5	39.10	105.8	76	MCL exceeded at Site 7	Site 5	35.8	73.4	47	By-product of Disinfection			
Site 6	42.7	101.9	77		Site 6	10.80	45	28.0				
Site 7	36.1	152.0	86	Site 7	30.5	56.0	44					
Site 8	38.2	92	69	Site 8	31	50.0	41					
Site 9	35.9	90.8	69	By-product of Disinfection	Site 9	27.2	62	46				
Site 10	39	93.0	74		Site 10	18.0	71.7	43				
Site 11	37.6	98.0	74.0		Site 11	25.0	56.2	46.0				
Site 12	38	91	70.0		Site 12	18.7	59.0	42				
Secondary Compounds	City of Newark	Federal/State Secondary Standards (Optimal Range)		Regulated Disinfectants			City of Newark		MRDL	MRDLG		
ABS / LAS	0 - 0.07			(Distribution System, Chlorine ppm)			0.294 – 1.01 annual average		4.0 as Chlorine ppm	4 ppm		
Alkalinity, ppm	30.3 - 40.9	NS		Source (Raw) Water - Pathogen Monitoring			Min.	Max.	Microbial Pathogens found in surface water throughout the U.S.			
Aluminum, ppm	0.035 - 0.050	≤0.200		Giardia cysts					Giardia lamblia is a microscopic parasite found in untreated water. Consumption of water containing Giardia can cause giardiasis, which is an infection of the small intestine. Chlorination and sufficient Chlorine Contact time in water will inactivate Giardia.			
Chloride, ppm	41.6 - 80.2	≤250		No. of cysts counted			0	2				
Flouride, ppm	0.066	≤2.0		Giardia, Cysts / L			0	0.10 - 0.18				
Color, CU	1.0 - 3.0	≤10										
Hardness, ppm	57 - 72.4	50-250										
Iron, ppm	0.007 - 0.013	≤0.3										
Manganese, ppm	<0.0020 - 0.027	≤0.05										
pH, units	8.08 - 8.34	6.5 - 8.5										
Sodium, ppm	22.1 - 46.5	≤50										
Sulfate, ppm	11.1 - 11.2	≤250										
Total Dissolved Solids, ppm	127 - 159	≤500										
Zinc, ppm	<0.01 - 0.2	≤5										

KEY

- Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available technology.
- Maximum Contaminant Goal (MCG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Maximum Residual Disinfectant Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
- Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- ppm (parts per million):** 1 drop in 10 gallons, 1 inch in 16 miles, or one penny in \$10,000.
- ppb (parts per billion):** 1 drop in 10,000 gallons, 1 inch in 16,000 miles, or one penny in \$10,000,000.
- picoCurie (pCi):** A unit used to describe the level of activity or decay of a radioactive element.
- mfl:** Million fivers per liter.
- mmrem/year:** Millirems per year (a measure of radiation absorbed by the body).
- ntu:** Nephelometric Turbidity Units.
- pCi/l:** Pico curies per liter (a measure of radioactivity).
- ppt:** Parts per trillion, or nanograms per liter.
- ppq:** Parts per quadrillion, or picograms per liter.
- Secondary Contaminants:** Federal drinking water measurements for substances that are not health related. These are recommended levels and reflect aesthetic qualities of water.
- SMCL:** Secondary Maximum Contaminant Level.
- TOM:** Threshold Odor Number.
- NS:** No standard.
- ND:** Not detectable at testing limit.
- CU:** Color Units.
- RUL:** Recommended Upper Limit.

KNOW YOUR WATER

You may have noticed media attention to public water supply issues related to radiological substances, Mercury, Lead, Radon, Arsenic and Cryptosporidium. Newark is well aware of these and other water quality matters. We continue to perform extensive testing of all of our water supplies. We want to assure our customers that we are providing the high-quality water you expect and deserve.



CHEMISTS ARE THE SAFEGUARDS TO NEWARK'S WATER

CHLORINE TREATS OUR WATER

For almost 100 years, water suppliers in America and other countries have used chlorine to treat or disinfect drinking water. According to the EPA and other health agencies, Chlorine is currently one of the most effective disinfectants used to kill harmful microorganisms. Disinfection of all public water supplies is required by federal and state laws and regulations, including the Safe Drinking Water Act and the Surface Water Treatment Rule.

ITEMS OF SPECIAL INTEREST TO NEWARKERS

Lakes, rivers, and reservoirs may contain Cryptosporidium, which is a tiny microbe. It is found in human feces and many domestic and wild animals. We test for Cryptosporidium on a monthly basis in our Pequannock finished water surface water supplies. It has never been detected in a viable state in any of our treated water supplies and it has never been found in the Wanaque Supply.

Disinfectant Byproducts Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAAs): TTHMs and HAAs are organic compounds, which form when disinfectants (Chlorine) react with natural organic matter in water. (Leaves, brush, etc) TTHMs are a group of four chemical compounds, Chloroform, Bromodichloromethane, Dibromochloromethane and Bromoform. Haloacetic Acids are Monochloroacetic acid, Dichloroacetic acid, Trichloroacetic acid, Monochloro-Bromoacetic acid and Tribromoacetic acid. The Maximum Contaminant Level (MCL) for TTHMs is 80 parts per billion (ppb) and HAAs is 60 ppb for any sample and the four quarter average. In 2015, the TTHM results were higher than normal, in September 2015, one of the samples collected exceeded the MCL causing the four quarter average to exceed the MCL at 85 ppb. Since these MCL violations were Tier 2, Public Notices were sent out for the 3rd and 4th quarter 2015. People, who drink water containing TTHMs and HAAs in excess of MCL over a long period of time may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

NEWARK'S WATER SOURCE

We are fortunate because Newark's water comes from pristine reservoirs in the Pequannock and Wanaque watersheds that cover 150 square miles of forestlands in Morris, Sussex and Passaic Counties.

By their nature, surface waters, such as lakes and rivers, are accessible and can be contaminated by chemicals and disease-causing organisms. Since our intake systems are located a considerable distance offshore (built in the early 1900's), potential contamination from rivers, streams and other nearby sources is greatly minimized.

Since no single treatment process can address all possible contaminants, we use a multiple barrier process to treat Charlettsburg Reservoir water in order to meet drinking water quality standards.

SPECIAL CONSIDERATIONS

NITRATE	levels above 10 ppm in drinking water is a health risk for infants less than six months old and can cause blue baby syndrome. Levels may rise quickly for short periods of time because of rainfall or agricultural activity. <small>If you are caring for an infant, you should ask for advice from your health care provider.</small>
LEAD	infants/young children are more vulnerable to lead in drinking water. Lead levels in your home may be higher because of the materials used in your home plumbing. If concerned, you may wish to flush your tap for 30 seconds to 2 minutes before using. <small>Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791.</small>
ARSENIC	to ensure that tap water is safe to drink; EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.
TURBIDITY	turbidity is a measure of cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

FAILURE TO REPORT AND VIOLATIONS

In June of 2013 one of the samples collected from Newark's distribution system was found positive for total coliform. Repeat and check samples were collected and total coliform was found negative. Newark was late in reporting these results to NJDEP E2. If there was an emergency, you would have been notified. Total coliform bacteria are not generally harmful themselves. Coliforms are bacteria which are normally present in the environment and are used as an indicator that other potential harmful bacteria may be present. If coliforms are found in more samples than allowed, it will be a warning of potential problems.

Newark failed to meet required Chlorine Contact Time (CT) from November 2015 to February 2016 at the distribution entry sampling point. This is a treatment technique violation. We are constantly adjusting the Chlorine residuals to maintain the CT ratio of 1.0 or above, enough to inactivate Giardia. We are also taking action to move the sampling point further downstream to provide more chlorine CT to make sure that even in the winter months when the water temperature is lower, we can meet the CT requirements.

For more information or to learn more about protecting your drinking water, please contact Andrew Pappachen at 973-697-5458.

TESTING OUR WATER

The City of Newark has a water treatment plant where it treats and filters our water to ensure its safety and potability. Newark routinely monitors and tests the water at rivers, lakes and streams that supply its reservoirs. Newark continually monitors the quality of water throughout the distribution system, which finds its way to you, the consumer.

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NEWARK'S WATER IS SAFE TO DRINK AND USE

PRSR.T. STD.
US POSTAGE
PAID
NEWARK, NJ
PERMIT NO. 937

NEWARK
WATER
SEWER
Linking People and Water



CITY OF NEWARK
Mayor Ras J. Baraka

Department of Water and Sewer Utilities
Newark City Hall Room B-31F
920 Broad Street
Newark, New Jersey 07102

Ras J. Baraka, Mayor
Municipal Council
Mildred C. Crump, Council President, Council Member-At-Large
Augusto Amador, Council Member, East Ward
Carlos M. Gonzalez, Council Member-At-Large
John Sharpe James, Council Member, South Ward
Gayle Chaneyfield Jenkins, Council Member, Central Ward
Joseph A. McCallum, Jr., Council Member, West Ward
Eddie Osborne, Council Member-At-Large
Luis A. Quintana, Council Member-At-Large
Anibal Ramos, Jr., Council Member, North Ward
Jack Kelly, Business Administrator
Department of Water and Sewer Utilities
Andrea Hall Adebawale, Director

NEWARK
WATER
SEWER
Linking People and Water

CITY OF NEWARK
Mayor Ras J. Baraka

This report contains important information about our drinking water. If you do not understand it, please have someone explain it for you.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

Este reporte contém informações importantes sobre a sua água de beber. Traduza-o ou fale com alguém que o compreenda.



Charlotteburg Reservoir

2015 WATER QUALITY REPORT PEQUANNOCK & WANAQUE WATER SYSTEMS



Dear Customers,

I am pleased to present you the 2015 Water Quality Report, which describes the outstanding quality of our drinking water and reflects the dedication of the City of Newark's Department of Water and Sewer Utilities staff who serves you 24/7. Safe, quality drinking water is our priority and the test results presented in this report demonstrate that your drinking water meets the water quality standards established by the U.S. Environmental Protection Agency (EPA).

Please take this opportunity to learn more about your drinking water and the City of Newark's efforts to protect public health. We are committed to serving you the best water at the lowest possible price for generations to come. If you have any questions, concerns or suggestions, please contact us.

Sincerely,

Ras J. Baraka , Mayor

A City We Can All Believe In